

Testimony of Linn Goldberg, M.D., F.A.C.S.M.
U.S. House of Representatives
Subcommittee on Commerce, Trade, and Consumer Protection
& Subcommittee on Health
Washington, DC 20515-6115
“Steroids in Sports: Cheating the System and Gambling Your Health”

Mr. Chairmen and members of the committees:

Thank you for the opportunity to testify on this critical issue. I am a practicing physician, professor of medicine and Head of the *Division of Health Promotion & Sports Medicine* at the *Oregon Health & Science University* in Portland, Oregon. For nearly two decades, I have worked with young athletes and have been engaged in the study of anabolic steroids and other performance enhancing drug use. I also am the father of five sons. For me, this problem has significance, both personally and professionally.

It is difficult to be a teenage athlete today. More than 50% of high school students participate in school-sponsored athletics, and these student-athletes face the pressure to succeed, perform at a high level, and win for themselves, their team, parents, schools and communities. When winning becomes more important than developing well-adjusted student-athletes, this often translates into substance abuse and antisocial behavior.

Anabolic steroid use has invaded the world of adolescent sport. Despite a perception that student-athletes are not involved in unhealthy behaviors, young athletes participate in substance abuse at a rate similar to that of non-athletes and they have even higher rates of performance enhancing drug and supplement use. The most recent *Monitoring the Future* survey shows that past year and past month steroid use among high school seniors is at its highest level since self-reported use was first assessed over a decade ago. The arrest of Utah high school students traveling in a van loaded with steroids, and the recent admitted use of these drugs by high school teams in Arizona and Texas, are reminders that this problem requires immediate action.

Despite the focus on steroid use among selected professional and Olympic athletes, and news reports of use by police officers, the vast majority of steroid users are in our nation's high schools. Based on the May, 2004 *Centers for Disease Control* report, there are more than 800,000 high school students who have used or are currently using anabolic steroids. Also, because steroids have not been a focus of youth drug prevention, and since high school drug prevention is limited, young athletes are unprotected at a time when they are particularly vulnerable to the inducements and risks of these drugs.

Steroid use among children and adolescents has several origins. Besides the significant role model effect from high profile steroid abusing athletes, there are gender and media pressures. For adolescent females, the desire toward being thin is compounded by the needs of their sport, resulting in disordered eating, depressive symptoms and use of body-shaping drugs, including steroids. For young male athletes, there are unrealistic expectations for their future as collegiate and professional athletes, coupled with risk-

taking and impulsive behaviors that lead to performance-enhancing drug use. Adolescent male steroid use has been found to be related to anti-social behavior, and use of alcohol and other drugs.

Another critical influence toward the acceptance of steroid use may have emerged among advertisers who glibly use the term, “on steroids” to market their products. These strategies promote the idea that being “on steroids” relates to their merchandise being bigger and better. This includes the 3-M corporation’s ad stating that its “Post-it Easel” is like a “Post-it Note” on steroids, or U.S. Satellite Broadcasting’s boast that its digital picture and sound are like “putting your TV on steroids.” A recent shoe ad describes its cross training athletic shoe to be “cross trainers on steroids,” while a Saab automobile advertisement compared their vehicle’s engine to the large muscles derived from steroid use with the title, “Saab vs Steroids.” Could anyone imagine marketing strategy that makes the analogy that their product is “on” any other drug of abuse, like cocaine, LSD, or marijuana? In our society, only steroid drugs are associated with being bigger and better and used in ad campaigns.

Anabolic steroid use has numerous risks. These risks may be even greater among adolescents, due to differences in physiology, body mass, and maturity. Current scientific data probably underestimates the actual harmful effects of steroid use because of the low doses studied in most research, which do not approach the typical doses used by steroid users. Because there are no long-term scientific studies of use at the extreme levels taken by athletes, research into the effects have been left to animal studies, case reports, and lower dose use. These documented harms include: 1) increased risk for cardiovascular disease, including heart attacks and strokes; 2) the risk of various liver diseases, especially for those who use the oral steroids; 3) tumors, including those of the prostate and liver; 4) tendon rupture; 5) kidney failure; 6) masculinization of women; 7) stunting the height of children and adolescents; and 8) psychological disturbances ranging from suicidal depression to uncontrolled aggression. In addition, because of needle sharing, the risk of HIV/AIDS, hepatitis, and serious infections are ever-present.

So, what is the solution? To combat the growing use of steroids and associated behaviors, my colleague Diane Elliot and I engaged in 4 years of formative research. Initially we learned what would not work. We found that scare tactics, informational pamphlets and adult lectures would not deter students from steroid use, since high school students don’t enjoy lectures, don’t read pamphlets and often feel invulnerable. What we did learn however, was that an effective prevention program would need four major components. First, we needed to separate the girls and boys, because their risk and protective factors for harmful behaviors differ. Second, the information and discussions needed to be led by peers, because kids listen to kids, and the venue should be a place where students work together and share common goals. Third, there needed to be younger and older students present, so the more mature students could serve as role models. Fourth, an instructor needed to be someone the students respect, in and out of the classroom. As you can see, these necessary components are present in every high school sport team.

After learning these lessons, we applied for and were awarded funding from the National Institute on Drug Abuse. With NIDA funding, ATLAS*, the program for young men, and ATHENA**, the program for young women, were born. ATLAS and ATHENA are team-centered, programs, with most of the teaching performed by student-athletes, and facilitated by the coach. These programs provide healthy sports nutrition and strength-training as alternatives to use of athletic-enhancing and body-shaping drugs, while reducing risk factors that promote use of alcohol and other illicit substances that can harm sport performance. The messages and activities are clear and tailored to each gender. Not only are these programs successful, kids really enjoy them. Today, schools from 29 states and Puerto Rico have selected these programs for use.

The results of ATLAS and ATHENA have been published in prestigious, peer-reviewed scientific journals, including *JAMA (Journal of the American Medical Association)* and the *Archives of Pediatrics and Adolescent Medicine*. Findings for ATLAS include:

- Significant decreases in alcohol and illicit drug use
- More than 50% reduction in new anabolic steroid use
- More than 40% reduction in performance enhancing supplement use
- 24% reduction in drinking and driving
- Improved dietary behaviors, increased physical capacity, and reduced body fat

For ATHENA, the changes include:

- More than 50% reduction in new sport supplements, amphetamines & steroid use
- More than 50% reduction in new and ongoing use of diet pills
- Long-term reductions in alcohol and marijuana use
- A reduction in riding in cars with drinking drivers, and an increase in seat belt use
- A reduction in new sexual activity
- Improved nutrition and strength training behaviors
- Fewer sports injuries

After careful review by federal agencies, ATLAS was awarded *Model Program* status by the *Substance Abuse and Mental Health Services Administration* and was recognized as one of only nine *Exemplary Programs* by the *United States Department of Education*. ATLAS and ATHENA are the only featured prevention programs listed in the *Anabolic Steroid Control Act of 2004*.

The high school years represent a critical window of opportunity to prevent the use of steroids, alcohol and other drugs. During this period, students are establishing habits that will last a lifetime. Schools need to do what they do best...educate. They need to educate coaches, parents and their athletes. ATLAS and ATHENA are examples of rigorous research initiatives that have turned into important public health interventions that can be easily implemented by school districts throughout the United States. ATLAS and ATHENA and programs modeled after them, can improve the health of young athletes and recapture the healthy mission of sport.

****Athletes Training & Learning to Avoid Steroids***

*****Athletes Targeting Healthy Exercise & Nutrition Alternatives***

Summary of Major Points

- Student-athletes face pressures to succeed in their sport. For some schools winning appears more important than developing well-adjusted student-athletes. When this occurs, it can lead to substance abuse and antisocial behavior.
- Monitoring the Future reports that past year and past month steroid use among high school seniors is at its highest level since steroid use was first assessed. Although there has been a focus on Olympic and professional athletes' steroid use, most users are high school athletes. The CDC suggests over 800,000 teens report current or prior use.
- Male and female adolescents use steroids for different reasons. For females, it is related to disordered eating practices and depressive symptoms; whereas for males it is more related to being muscular, risk-taking, anti-social behavior and use of alcohol and other drugs.
- Steroid use can cause significant physical and psychological harm. Risks include heart attacks, strokes, certain tumors, liver disease, depression and uncontrolled aggression. These drugs can stunt the height of growing adolescents and masculinize women. The unhealthy effects of steroids are more likely to occur among adolescents than adults.
- ATLAS and ATHENA are two NIDA funded, gender-specific, sport team programs that use peer teaching and a coach facilitator. These research-tested, interactive programs provide sports nutrition and strength training as alternatives to use of athletic-enhancing and body-shaping drugs, and reduce risk factors that promote use of other substances that can harm sport performance. ATLAS and ATHENA athletes showed reduction of steroids, alcohol and other drug use, and improved health behaviors.
- ATLAS and ATHENA are easily implemented into schools, are enjoyable to students, improve the health of young athletes and recapture the healthy mission of sport.

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